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REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 1-11 are pending in the application.

Claims 1-11 have been rejected.

Claims 1, 2, 4 and 7 have been amended. Applicants respectfully assert that the amendments to the claims add no new matter. It will be noted that claims 2, 4 and 7 have been voluntarily amended for clarification only. These amendments do not narrow the scope of the claims, nor are they being made for reasons of patentability.

Claim 12 has been newly added in this submission.

CLAIM REJECTIONS

35 U.S.C. § 102 Rejections

In the Office Action, the Examiner rejected claim 1 under 35 U.S.C. § 102(e), as being anticipated by Ziger (US 2003/0157415). Applicants respectfully traverse this rejection at least for the reasons that follow.

Ziger discloses an apparatus and a method for compensating critical dimension deviations across a photomask. In this method, a photomask is partitioned into a plurality of regions. A critical dimension is then measured for each of the regions in the photomask. Based on the measured critical dimensions, a deviation map is generated to map deviation of

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the critical dimension from a target dimension for each of the regions in the photomask. From the deviation map, an amount of actinic radiation needed to be attenuated to compensate for the critical dimension deviation from the target dimension is determined for each of the regions of the photomask. Based on the determined attenuation amount of actinic radiation, the transmission of the actinic radiation through each of the regions in the photomask is attenuated such that the critical dimension deviation is compensated to the target dimension for each of the regions in the photomask. Ziger suggests several ways for transmission attenuation which include absorbing species (dopants), deposition of semi transparent material over selected mask regions.

However, Ziger does not suggest or teach a method for compensating for critical dimension (CD) variations of pattern lines of a wafer, which includes “using laser radiation providing Shading Elements within the substrate of the photomask in regions which correlate to regions of the wafer exposure field where CD variations greater than a predetermined target value were determined,” as recited in claim 1 as amended.

For a reference to anticipate a claim the reference must teach all elements of the claim. Therefore, Ziger cannot anticipate amended independent claim 1. Accordingly, Applicants assert that amended independent claim 1 is allowable over the Ziger reference.

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 2-11 under 35 U.S.C. § 103(a), as being unpatentable over Ziger (US 2003/0157415) in view of Zait et al. (US 2002/0086245). Applicants respectfully traverse this rejection at least for the reasons that follow.

Neither Ziger nor Zait et al., alone or in combination, teach or suggest, a method for compensating for critical dimension (CD) variations of pattern lines of a wafer, which includes “using laser radiation providing Shading Elements within the substrate of the photomask in regions which correlate to regions of the wafer exposure field where CD variations greater than a predetermined target value were determined,” as recited in amended independent claim 1, from which claims 2-11 depend.

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Applicants respectfully traverse the rejection because a prima facie case of obviousness has not been established.

The combination of Ziger and Zait et al. does not teach or suggest all the elements of amended independent claim 1, therefore, it does not teach or suggest all the elements of dependent claims 2-11. Ziger has been discussed above. That discussion is applicable here. Second Reference is also silent as to “using laser radiation providing Shading Elements within the substrate of the photomask in regions which correlate to regions of the wafer exposure field where CD variations greater than a predetermined target value were determined” and therefore cannot cure the deficiencies of Ziger. Accordingly, Applicants respectfully assert that the claims are allowable over the Ziger and Zait references.

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In view of the foregoing amendments and remarks, the pending claims are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,

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